### **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



F3 Inc. 1

# UNITED STATES DEPARTMENT OF AGRICULTURE Agricultural Marketing Service

MAR 23.

IMPORTANT TRENDS IN NATIONAL FRUIT AND VEGETABLE PRODUCTION AND DISTRIBUTION

By Reginald Royston, Senior Agricultural Statistician, and Raymond L. Spangler, Agricultural Economist

Presented by Reginald Royston, Meeting of American Farm Bureau Federation, Chicago, Illinois, December 4, 1939.

A billion dollar industry is a big business even in this country. The annual value of fruit and vegetable production in the United States, as measured by prices received by producers, exceeds a billion dollars. And the gross cash income to growers from sales of these products (including market garden vegetables) averages close to a billion dollars annually.

So the subject of this discussion, dealing as it does with important national trends in the production and disposition of more than 50 kinds of fruits and vegetables, is also a big one. The Department of Agriculture estimates the annual production and value of 21 major fruit crops, 4 tree nuts, and 26 commercial truck crops, including potatoes and sweetpotatoes. These crops are widely grown, many of them in every State of the Union.

## Trends in Production To Selice of Trends in Production To Selice of the Control o

In order to measure significant trends in production we need annual records covering a long series of years. Production records of the Agricultural Marketing Service of the United States Department of Agriculture on some of the major fruits, such as apples and peaches, extend back for nearly 50 years. On others we have reliable estimates for only 20 or 30 years. Most of the official estimates on commercial vegetable or truck crops were started about 20 years ago. Since we are considering the entire field of fruit and vegetable production, it seems desirable to limit the discussion to the last 20 years.

Most of us can remember back to 1919. The World War was over and the "High Cost of Living" was the subject of newspaper editorials the country over. Then came the 20's with rapidly declining commodity prices and farm mortgage foreclosures. Farmers began looking around for alternative crops to boost sagging incomes. About this time the health giving qualities of vitamins were becoming more widely known. Fruits and vegetables were recommended as an important source of these vitamins for the old and young

alike. And styles in feminine pulchritude were changing istreamlining was becoming the rage. This streamlining called for the substitution of fruits and vegetables for starches in milady's diet.

With thousands of acres of fertile land available for the growing of fruits and vegetables it was to be expected that this industry would expand rapidly. And so it has. Judging by the statistical records, which eliminate errors of memory, total fruit production has increased materially in the past 20 years. On the whole, the vegetable industry has gone ahead by leaps and bounds. Potatoes and sweetpotatoes have shown no significant increases in production.

#### Big Increases in Acreages of Truck Crops for Fresh Market

In this brief discussion let us consider first the trends in production of commercial truck crops. For this purpose 21 fresh market crops for which the Department has fairly comparable figures for the past 20 years have been selected. This group does not include potatoes, sweetpotatoes, or vegetables grown in strictly market garden areas. It includes most of the important vegetables grown in commercial areas other than market gardens. They are as follows: artichokes, asparagus, lima beans, snap beans, beets, cabbage, cantaloups, carrots, cauliflower, celery, sweet corn in New Jersey, cucumbers, eggplant, kale, lettuce, onions, green peas, green peppers, spinach, tomatoes and watermelons.

This compilation shows some rather phenomenal trends. First of all, large increases are shown in the acreages of these crops. In 1919 the total acreage planted to the 21 crops for fresh market was about half a million acres. Plantings climbed rapidly and by 1926 there were a million acres in these crops. Six years later, in 1932, the acreage had passed the million and a half mark, and by 1936 it had increased to nearly one and three-quarter million acres. Since 1936 the total acreage has shown only minor fluctuations and has been maintained near the level of that year. The 1939 acreage, at one and three-quarter million acres, is slightly the largest on record.

Looking at the geographical distribution of this acreage, we find that all major regions of the United States participated in the acreage expansion. It is interesting to note that in the Far Western region (Pacific Coast and Rocky Mountain States) the area devoted to truck crops has increased in 20 years to 5 times the 1919 acreage — or from 100,000 acres in 1919 to 534,000 in 1939. California, with about three-fifths of the present total acreage, predominates in the Far Western region. In the South Central region the increase was nearly as great, the acreage climbing from 84,000 in 1919 to 411,000 in 1939. Texas now has about three-fourths of the acreage in the South Central States. In the South Atlantic States the acreage almost tripled during this period, having expanded from 161,000 to 454,000 acres. Florida has about two-fifths of the acreage in the South Atlantic States. The North Atlantic States more than doubled their acreage and now

have 211,000 acres compared with 95,000 in 1919. The North Central States were more moderate and increased plantings by only three-fourths - from 80,000 to 136,000 acres.

Singling out important individual States, we find that the most phenomenal increases were made in Texas and California. In 1919 the Lone Star State had less than 50,000 acres of the truck crops included in this study. By 1926 it had 128,000 acres; 5 years later, in 1931, 227,000 acres; and in 1936 plantings reached a peak of 324,000 acres. Following 1936 the Texas acreage declined somewhat and it is now around 275,000 acres. The expansion in California has about paralleled that of Texas. Less than 80,000 acres were in truck crops in California in 1919; by 1926 the area was about 226,000, and by 1932 it had reached a peak of 395,000 acres. Plantings in California have varied between 331,000 and 385,000 acres since 1932 and show no further upward trend. Florida, with about 60,000 acres in 1919, had passed the 100,000 mark by 1922. Since that time, except for decreases in 1926 and 1927, plantings in Florida have increased gradually until in 1938 they reached a total of 171,000 acres.

In the North Atlantic States, New Jersey and New York dominate the vegetable situation. New Jersey has made some significant increases in the past 20 years and now has slightly more than 100,000 acres. Increases in New York have been rather moderate during this period and the total is still under the 100,000 mark - around 80,000 in the last 2 seasons. Michigan is now the most important producer of vegetables for the fresh market in the North Central region, having replaced Indiana in this role in 1932. Acreage in Michigan increased from about 9,000 acres in 1919 to 38,000 in 1939. In these States market garden acreage is significant and furnishes additional supplies.

#### Production Has Followed Acreage Trend

The tonnage of truck crops produced for fresh market has followed closely the increase in acres. Back in 1919, about  $2\frac{1}{2}$  million tons were available for sale. By 1924 there were more than 4 million tons; in 1927 the quantity reached 5 million tons, and during recent seasons production has ranged from 6 to  $6\frac{1}{2}$  million tons. The increase in production has not been quite so rapid as that in acreage because much of the expansion in acreage has probably been on lower yielding land. The average yield per acre has gradually declined during this period.

Placing production on a per capita basis, in order to adjust for the increase in population, we find that twice as many pounds per person are available for consumption now as was the case 20 years ago. For the 21 truck crops under consideration, the per capita production increased from 50 pounds in 1919 to 102 pounds in 1938. This does not mean that the full per capita supply always moves into consumptive channels. Too frequently during recent years portions of some crops have been left in the fields unharvested because of low prices.

M. H. MAR 23 1940

Coincident with the rapid increase in the combined production of the 21 vegetables for the fresh market, some significant shifts in the composition of this vegetable aggregate have occurred. Comparing for the 13 leading individual crops the recent 5-year (1934-38) average production with that of 1919-23, we find the following significant trends:

Green peas, carrots, asparagus, snap beans, lettuce, spinach and celery, in the order named, show the biggest gains in tonnage over the 20-year period. The increases range from 109 percent for celery to 708 percent for green peas. The total production of these 7 crops now comprises 33 percent of the vegetable aggregate compared with 20 percent in 1919-23. Tomatoes, onions, cabbage, cucumbers, cantaloups and watermelons registered more moderate increases. These increases ranged from 19 percent for watermelons to 81 percent for tomatoes. The combined production of the 6 latter crops now comprises 62 percent of the aggregate compared with 79 percent in 1919-23. In point of tonnage, cabbage has the largest production of the 21 vegetables and is followed by watermelons, onions, lettuce, tomatoes, celery, cantaloups and carrots, in the order named.

#### Growers Returns Affected

Growers have received less and less per pound as the per capita production increased. Prices received by vegetable growers in recent years have averaged only about three-fifths of the prices received in the early 20's. Althouth some of this decrease can be accounted for by a lower level of consumer purchasing power, a large part of it is attributable to the bigger per capita supply now available. Returns per acre are now only about one-half of what they were 20 years ago.

Since 1934 grower returns have improved somewhat as a result of improved purchasing power, although there were some further increases in the per capita production. Additional improvement in the purchasing power of the non-agricultural population would result in some further gain in per acre returns to growers, provided the per capita production is held at the present level. But with the present high level of per capita production, it is unlikely that growers can obtain returns anything like those of 1919 to 1929.

#### Commercial Truck Crops for Processing

In addition to the acreage planted for fresh market a considerable area is also devoted to the growing of truck crops for canning, freezing, pickling and other processed products. The acreage of these crops, which is largely under the control of commercial packers through contracts with growers, tends to follow 5 or 6-year cycles. Acreage usually increases about 3 years in succession until packs and carry-over of the processed

products become excessive. This period of expansion is then followed by 2 or 3 years of acreage decreases and reduced production.

In spite of these well-defined cycles the trend of acreage and production has been upward during the past 20 years. Considering the 8 important truck crops for processing (asparagus, snap beans, cabbage for kraut, sweet corn, cucumbers for pickles, green peas, spinach and tomatoes) we find that the combined acreage of these crops has ranged from about 1/2 million to 1½ million acres in the 20-year period. The low-record planting was made in 1921; the high-record acreage came in 1936. Acreage of these crops has averaged 1,300,000 during the past 5 years (1935-39) compared with the average of 700,000 acres for the 5 years (1919-23) at the beginning of the 20-year period.

Changes in production of these vegetables follow closely the changes in acreage. Production has increased from 2 million tons in 1919 to a level of approximately  $3\frac{1}{2}$  million in recent years. Per capita production climbed from 39 pounds per person in 1919 to 55 pounds in 1938.

Considering the individual crops for processing, the rate of increase in production has been greatest for snap beans, the average for 1934-38 showing a 211 percent increase over that of 1919-23. Cucumbers for pickles, asparagus, tomatoes, green peas, cabbage for kraut, spinach, and sweet corn showed increases in the order named. These ranged from 46 percent for sweet corn to 86 percent for cucumbers. In point of acreage and volume of production, tomatoes, sweet corn and green peas are the leading crops for processing.

Prices to growers and returns per acre have declined less than in the case of truck crops grown for the fresh market. After reaching a low point in 1932 grower prices have recovered in recent years to a point where they are about four-fifths of the 1929 level and three-fourths of the 1919-23 level.

The North Central States have nearly half of the acreage devoted to the growing of vegetables for commercial processing. The South Atlantic and Western regions each have about one-sixth of the acreage; the North Atlantic States one-seventh; and the South Central States less than one-tenth. The 5 States with the largest acreages, in order of importance, are Wisconsin, Indiana, Maryland, California and New York.

#### Potato Yields Have Been Up; Per Capita Consumption Down

Irish potato acreage has fluctuated within a wide range during the past 20 years, but the general trend has been downward. During this period, harvested acreage has varied from a high level of 3.9 million acres in 1922, to the unusually low figure of 2.8 million acres in 1925 and 1926. For the past 4 years, acreage has been smaller than in most of the previous years, ranging from 3 to 3.2 million acres.

Yields per acre, on the other hand, have shown a distinct upward trend for the past 2 decades. Part of the increase in yield per acre is attributed to improved cultural practices, including the wider use of certified seed in all sections of the country, and the development of higher yielding varieties. But the most important factor is the shift to commercial potato production. Since yields on commercial potato farms are substantially higher than those on the general type farms, the perceptible trend toward commercial production has resulted in larger yields for the United States.

These increases in yield per acre have offset the declining acreage. During the past 20 years there has been no pronounced trend in potato production, although sharp year-to-year variations have taken place.

While the level of total potato production has shown little change, marked shifts have been noted in the seasonal producing sections. In the 11 Early States, for example, production has steadily increased. Production in the 7 Intermediate States, on the other hand, has gradually declined. Competition from the large early crop in California, and late marketings from the Early States have placed the Intermediate group in a very disadvantageous marketing position. In the Surplus Late States, production has increased very slowly since 1925, and the same trend has been noted in the 12 Other Late States, although the upward trend here began about 1921.

Total United States potato production during the last 5 seasons has ranged between 332 and 386 million bushels. The 5-year (1935-39) average is about 370 million bushels.

But while total potato production and consumption have risen slowly, the population has increased at a much faster rate. This means that the per capita production and consumption have decreased. The downward trend in per capita production and consumption has been noted for almost 30 years, although sharp variations have taken place from year to year. During the past 20-year period per capita consumption has declined from the average of 2.6 bushels in 1919-23 to the average of 2.3 bushels in recent years.

People in general are eating a smaller proportion of foods having a high starch content. This tendency is partly due to the current fad for slimness, and partly because the Nation as a whole performs less hard manual labor and has a smaller need for energy-producing foods. This shift away from potatoes and other starchy foods has been accompanied by a sharp increase in the production of vegetables and fruits.

There is some indication, however, that the future increase in the production of vegetables and fruits will not be as rapid as in the past 20 years. The upward trend in vegetable production has already

begun to flatten out, and available data indicate that the rate at which fruit trees are being planted now is not as great as it was a few years ago. Possibly the next few years will see more of an equilibrium established between potato consumption and the consumption of other foods.

The crop-year value of sales from potatoes is closely related to the crop-year price received per bushel. The largest returns - about \$365,000,000 - were received for the crop of 1919, when a relatively small crop under maximum demand conditions brought the very high unit price of \$1.91 per bushel. The smallest returns were about \$87,000,000 for the large crop of 1932. Consumer buying power that year was at an extremely low ebb.

A small United States crop is generally worth more to producers than a large crop. In 1916, for example, 270,388,000 bushels were produced. The value of sales that year totaled \$252,432,000. In 1928, a record crop of 427,249,000 bushels was produced. The value of sales that year totaled \$139,070,000. In other words, the value of sales from the smallest crop on record exceeded by \$113,362,000 the value of sales from the largest crop on record.

Crop values behave in this manner because of the rather inflexible demand for potatoes. When prices are high, potatoes are still relatively cheap compared with other foods, and many people will pay comparatively high prices for them. When crops are large, the situation is different. Even though many people are reluctant to decrease their consumption of potatoes when prices are high, they are equally unwilling to increase their consumption when prices are low. In other words, there is no good substitute for potatoes in years of high prices, but neither are potatoes a good substitute for other foods when prices are low. Although producers can obtain high prices when the total crop is short, they cannot dispose of a large crop except at very low prices.

#### Sweetpotato Production Upward; Prices Down

After declining from a level of about 75 million bushels in 1919-22 to a low of 45 million bushels in 1924, the production of sweet-potatoes increased to 86 million in 1932. Though the crop sometimes varies considerably from year to year, the general trend has been upward in the last 15 years. Since 1932, the level of production, with some variations, has been around 75 million bushels. Sweetpotato prices vary inversely with production and there has been a marked downward trend in prices since 1925. In the past 4 years, the acreage planted annually to sweetpotatoes has been slightly under 900,000 acres.

A large portion of the sweetpotato crop is produced in the southern cotton States where sweetpotatoes are used principally for food in the locality where grown. The recent tendency to increase the production of home-grown foods in these States has served to maintain the acreage of sweetpotatoes at a relatively high level.

About as large a quantity of sweetpotatoes is consumed on farms where grown as is sold or marketed. Approximately three-fifths of the market supply is produced in New Jersey, Delaware, Maryland, Virginia, Kentucky, Tennessee and Louisiana.

#### Steady Increase in Total Fruit Production

Looking at the records of fruit production, we find that the combined tonnage of the 14 major fruits has increased steadily over the past 20 years. Total volume of production of the 14 major crops (apples, apricots, cherries, cranberries, grapes, grapefruit, lemons, olives, oranges, pears, peaches, plums, prunes, and strawberries) during the 5 seasons, 1934-38, averaged about two-fifths larger than that of the 5-year period, 1919-23. The rate of increase, as measured by 5-year averages, has been fairly uniform. Combined tonnage of the 14 fruits averaged 9.6 million tons in 1919-23, 11.4 million in 1924-28, 11.8 million in 1929-33, and 13.3 million in 1934-38. The per capita production of these fruits increased from an average of 176 pounds in 1919-23 to 207 pounds in 1934-38. Total production during the 1939 season is indicated to be well above the 1934-38 average and the upward trend is expected to continue at least through the next 5 years. It is also probable that a larger proportion of future production will consist of citrus fruits.

With reference to individual fruits, production of all fruits except apples and cranberries has increased during the past 20 years. Apples have shown only a moderate downward trend, although the number of trees of bearing age declined from 115 million in 1919 to 82 million in 1934. Per capita production has decreased, however, from the average of 72 pounds in 1919-23 to 57 pounds in 1934-38.

The loss in apple trees has been almost offset by a decided increase in the yield per tree. Most of the tree removals have been from farm orchards and the less profitable commercial orchards. This has tended to increase the average yield per tree because of the higher production per tree of the orchards remaining. Low apple prices, drought, and freezes of recent years have accelerated tree removals and abandonment. This process of elimination will undoubtedly continue but the rate of elimination will depend considerably on economic and weather conditions. Looking 5 or 6 years ahead, the downward trend in apple production is expected to be only moderate. But looking further ahead, the future rate of planting will be a very important factor in production. Many commercial orchards were planted shortly after the World War. These have helped substantially in maintaining production as their producing capacity increased with age. Ten years from now, many of these orchards will have reached or will be near the point of declining production, and declining production from the older orchards will be more pronounced. Thereafter, production will decline more rapidly unless plantings are made to replace the orchards that will be going out of production.

The most significant increases in fruit production in the past 20 years have occurred in citrus fruits. Because of the large plantings in the early 20's, production of oranges has more than doubled and is now exceeded only by apples. In fact, the supply of oranges in the 1938-39 marketing season was almost as large as the small 1938 apple crop. Per capita production of oranges increased from the average of 21 pounds in 1919-23 to 39 pounds in 1934-38. And with orange crops of 75 million boxes now becoming common, per capita production is increasing. Since about 40 percent of the bearing orange trees in the United States have not yet reached full production, additional increases in orange production are expected over the next 5 years.

Grapefruit production has increased to nearly four times the 1919-23 average. The per capita production of grapefruit increased from a little more than 5 pounds in 1919-23 to 17 pounds in 1934-38. The per capita production of oranges and grapefruit combined now exceeds that of the average apple crop. Considering the fact that 65 percent of the bearing grapefruit trees in the United States at the present time have not reached the age of full production, the average production of the next 5 seasons (1940-44) probably will be about one-third larger than during the last 5 seasons.

Lemon production has almost doubled during the last two decades and the per capita supply now exceeds 5 pounds per person. As with oranges and grapefruit, the trend of production is expected to continue upward during the next 5 years.

In the case of other fruits, moderate increases are anticipated for peaches, pears, dried prunes, and cherries, and grape production probably will increase slightly during the next 5 years. No significant changes are likely to occur in the average production of plums, apricots, strawberries, cranberries, and olives. Grapes have shown a moderate increase since 1919-23 and per capita production is now about 37 pounds compared with 32 pounds in 1919-23. Pears, cherries, plums, and prunes have shown significant increases in per capita production but peaches have shown a slight decline.

#### Trends in National Fruit Consumption

Consumption of fruits in the United States, as between the fresh, canned, and dried products, shows some interesting trends during the past 2 decades: Per capita consumption of all fresh fruits, including bananas, climbed from the average of 131 pounds in 1919-23 to 150 pounds in 1934-38. Most of this increase was in the consumption of citrus fruits and grapes. Consumption of bananas increased from 17.2 to 20.7 pounds per capita. The popularity of canned fruits is shown by an increase from 9.3 pounds per capita in 1919-23 to 15.4 pounds in 1934-38. These figures include canned fruit juices. Dried fruits declined in popularity, however, and per capita consumption decreased from 6.2 pounds to 5.7 pounds over the same period. During this period the U. S. dried packs of prunes, figs, apricots, pears, and dates increased, but dried peaches showed a downward

trend and dried apples and raisins showed little change in level. People are now eating less raisins, dried apples, dried peaches, dried pears and currants, but more dried prunes, dried apricots, and dates.

#### Fruit Prices are Relatively Low

As with other agricultural commodities, variations in prices received by producers of fruit are influenced by the two factors, total supply and consumer income. During the period, 1919-29, consumer income was at a relatively high level and the combined production of all fruits was on a low level compared with recent years. Most of the variation in fruit prices in this period was caused by the rather marked changes from year to year in fruit supplies. Since 1929, however, total production has remained on a relatively high level, whereas consumer income has been relatively low with marked variations from year to year. During the past decade the influence of consumer income on fruit prices has been more important than in previous years.

In relation to the 1924-29 level, the recent 5-year (1934-38) average production of all fruits combined was 18 percent higher. But the index of prices received for all fruits was 39 percent lower. The index of prices received for all farm products (1934-38 average) was about 28 percent below the 1924-29 level. During this period prices of grapefruit, oranges, cherries, pears, and dried prunes decreased more than prices of other major fruits. Prices of grapefruit and oranges decreased 62 and 54 percent respectively; cherries 50 percent, pears 48 percent, dried prunes 44 percent, grapes 36 percent, apples 31 percent, strawberries 30 percent, peaches 26 percent, apricots 25 percent, olives 20 percent, plums and fresh prunes 18 percent. The 1934-38 average of cranberry prices was the same as the 1924-29 average. The index of income of industrial workers decreased 23 percent.

It is apparent that as supplies continue to increase, it will be increasingly difficult to dispose of fruit supplies at reasonable returns to growers unless there is a marked improvement in the level of consumer purchasing power.

#### Significant Trends in Distribution

Along with the marked changes in acreage and production have come significant changes in the distribution of these commodities. A discussion of trends in national distribution, however, presents some important difficulties, inasmuch as the figures necessary to an adequate interpretation are not available.

#### Inadequate Data on Movement by Truck

Before the advent of the motortruck as a means of transporting fruits and vegetables to market, a record of carlot unloads in the various

markets gave a fairly accurate picture of commercial distribution. Now, however, such records are wholly inadequate, as a large percentage of the total movement of fruit and vegetable crops to market is by motortruck and records of motortruck receipts are not available except in a few markets. Under the circumstances, a discussion of distribution trends must necessarily be more or less general.

The principal markets for fruits and vegetables are located in the large industrial cities of the North and East. Carlot receipt records for 1938 in the 66 most important markets in the United States show that out of a total of 507,384 cars of fruits and vegetables unloaded, 362,564 cars, or approximately 71 percent of the rail and boat receipts, were unloaded in 31 principal cities in the East North Central and North Atlantic States. During the same year 10 percent of the rail and boat receipts were unloaded in 9 markets in the West North Central States, 7 percent in 13 markets in the South Central States, and 5 percent in 7 markets in the South Atlantic States.

In this connection it is interesting to note the decided downward trend in the movement of fruits and vegetables by rail and boat during the last 10 years. In 1929, 633,517 carloads of fruits and vegetables were unloaded in the 66 cities as compared with 507,384 carloads in 1938, a reduction of approximately 20 percent in the rail and boat movement during the 10 years. At the same time the trend in production of fruits and vegetables has been upward during this period, thus showing that there has been a decided upward trend in the use of the motortruck as a means of transporting these products to market.

Not only has there been an increasing trend in the use of the motortruck as a means of transporting fruits and vegetables to market, but there also has been a decided increase in the distances traveled by motortrucks from producing districts to markets. Trucks formerly traveled only short distances, but larger and better trucks, many of which are equipped with refrigeration facilities, now make it possible to transport these commodities hundreds and even thousands of miles. A representative of the Agricultural Marketing Service has recently determined that the destination of truck shipments from Colorado has been to points in 27 States. Some of the shipments traveled as far west as California and others as far east as Indiana and as far south as Miami, Florida. Truck shipments from Michigan have reached all States east of the Rocky Mountains on the west and practically all of the eastern and southern States except the North Atlantic States. Arkansas truck shipments of fruits and vegetables move as far west as the Rocky Mountains and reach towns and cities in practically all the Central States. The truck movement from Texas extends into Colorado and New Mexico and to practically all other States to the east except the Atlantic States.

In the distribution of fruits and vegetables those growers and shippers located in the States a long distance from the large terminal markets in the North and East are considerably handicapped in competing with growers and shippers located in States near these markets. Owing to the long distances to these markets, growers and shippers in the far western States,

for example, are forced to use the rail method of transportation; whereas those located nearer the markets in many instances utilize the cheaper method of motortruck transportation. The relatively high transportation costs make it necessary also for western growers and shippers to grade their fruits and vegetables closely and to ship only stock of the higher grades that can bear these larger costs. In eastern competing areas a large portion of the vegetables at least are graded and packed "field run". Therefore, the eastern producers of vegetables in general have smaller grading and packing costs.

Even though western growers and shippers are confronted with high transportation and large overhead costs for grading and packing produce in central packing sheds, most of their products are widely distributed to the markets of the country. For example, among the vegetables the crops of lettuce, carrots, celery, cantaloups, asparagus, potatoes, tomatoes, cauliflower, and peas produced in California have almost Nation-wide distribution at certain seasons of the year. Fruits and vegetables produced in the Lower Rio Grande Valley of Texas also enjoy wide distribution to the important market centers of the North and East. Partially offsetting the high costs of placing their produce in the markets is the fact that growers and shippers in Texas and California, as well as some other States, have a shipping season which continues more or less throughout the year; whereas the shipping season for many competing areas is limited to comparatively short periods. Without this climatic advantage producers in these areas would find it even more difficult to grow produce profitably.

#### Expansion in Quick Freezing

It is too early to predict just what effect the rapidly expanding quick freezing industry will have in the distribution of fresh fruits and vegetables. The development of this industry may tend to benefit growers that are located in States a long distance from the principal markets by providing an outlet for a part of their production. It is conceivable that under certain conditions the higher priced frozen products with waste removed might be shipped a long distance at a profit whereas it would be disadvantageous to ship the lower priced fresh products.

#### Efforts to Obtain More and Timely Information

The Agricultural Marketing Service is well aware of the marketing problems confronting the fruit and vegetable industry in the United States. With these problems in mind the Service is attempting to develop new methods that will assist growers, shippers, and dealers in the marketing of their crops.

This fall we have undertaken the development of a system of reporting daily motortruck receipts, at Chicago, of fruits and vegetables. If a complete coverage of motortruck receipts were to be accomplished in the large markets where such reports are not now prepared, additional funds would be

required to equip and adequately to staff about 15 of the regular market news offices. Funds would also be necessary if we are to comply with the requests of many growers and the trade to undertake additional market news work in the larger markets where it is found feasible to assemble and report timely information by radio, telephone, and telegraph on the condition, supplies, motortruck movement, and prices of produce from areas in which growers are not now adequately served by such reports.

An investigation is now getting under way on the marketing of potatoes in Chicago. Through this study it is hoped to obtain more information on consumer preferences for potatoes and to determine the feasibility of making the United States Standards for this product more adaptable to consumer use. Similar investigations regarding other fresh fruits and vegetables will be undertaken as available funds permit, with a view to developing standards that will serve more adequately the needs of consumers in obtaining the grade of product wanted and of growers in effecting a better distribution of their crops.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

